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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/585,117

06/30/2006

Motoyoshi Murakami

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11/03/2009

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EXAMINER

CAO, ALLEN T

ART UNIT

PAPER NUMBER

2627

MAIL DATE

DELIVERY MODE

11/03/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,117	Applicant(s) MURAKAMI ET AL.	
	Examiner Allen T. Cao	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-66 is/are pending in the application.
- 4a) Of the above claim(s) 42-56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-32, 35-37, 41, 57, 60-62 and 66 is/are rejected.
- 7) ☒ Claim(s) 33, 34, 38-40, 58, 59 and 63-65 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/12/08</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. Applicant's election without traverse of Group I, claims 29-41 and 57-66 in the reply filed on 8/26/09 is acknowledged.
2. Claims 42-56 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected claims, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8/26/09.
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 29, 30, 32, 35-37, 57 and 60-62 are rejected under 35 U.S.C. 102(b) as being anticipated by Inoue et al (US. 5,500,296).

Inoue et al discloses a magnetic recording medium having a recording layer on a substrate, comprising: an under layer on the substrate; and at least one signal region on the under layer, wherein a surface roughness of the signal region is different from that of other than the signal region (see particularly claim 7) as set forth in claims 29 and 30.

Regarding claims 32 and 57, Inoue et al inherently discloses that the signal region (recording region) has either concave or convex shape.

Official Notice has been taken, in the medium art, that the signal region comprises pre-pits has a surface roughness Ra of at least 0.5 nm or less, and the surface roughness of the other than the signal region is constant and more/less than 0.5 nm as recited in claims 35-36, 60-61 and the recording layer is composed of a magnetic

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film having magnetic anisotropy in the direction perpendicular to the film plane as claimed in claims 37 and 62.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 31, 41 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al.

Regarding claim 31, Inoue et al does not disclose that the under layer is composed of a dielectric layer, a metal layer, or a magnetic layer, or a thin film laminated thereof.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to manufacture the underlayer with such material through obvious routine choices of known material in order to improve the read/write characteristics of the medium.

Regarding claims 41 and 66, Inoue et al does not disclose that the maximum diameter of the signal region is 0.5 μm or less.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the diameter of the signal region such that the maximum diameter of the signal region is 0.5 μm or less through an obvious routine lab experimentation and optimization in order to improve the read/write characteristics of the medium.

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7. Claims 33-34, 38-40, 58-59 and 63-65 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen T. Cao whose telephone number is (571) 272-7569. The examiner can normally be reached on Mon - Thurs (7:30 - 6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ANDREA WELLINGTON can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Allen T Cao/
Primary Examiner, Art Unit 2627

/A. T. C./
Primary Examiner, Art Unit 2627